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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/683,054	11/13/2001	Keith L. Willis	106800	6806

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EXAMINER

RAHIMI, IRAJ A

ART UNIT	PAPER NUMBER
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2622

DATE MAILED: 09/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/683,054

Applicant(s)

WILLIS ET AL.

Examiner

(Iraj) Alan Rahimi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☒ Claim(s) 24-27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>30 June 2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3-4, 6-12, and 14-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Farrell et al. (US patent application publication US 2003/0067618).

Regarding claim 1, Farrell discloses an image forming apparatus, comprising:

a memory 56 that stores a queue of jobs to be performed using the image forming apparatus (paragraph. 44);

at least one of at least one element containing material consumed by the image forming apparatus in performing the jobs within the queue of jobs and at least one element having a useful life consumed by the image forming apparatus in performing the jobs within the queue of jobs (paragraph 43);

a controller that determines, for each of at least one job, that is in the job queue or is to be added to the job queue, and for at least one consumable within the image forming apparatus, if that job can be performed based on an unallocated amount of a remaining amount of that consumable, where in the controller generates an alert notification if that job can not be

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completed in view of the unallocated amount of that consumable; and a notification device that conveys an alert notification generated by the controller to a user (paragraph 43-44).

Regarding claim 3, Farrell discloses the apparatus of claim 1, wherein, for each of the at least one job and for each of the at least one consumable, the controller estimates an amount needed of that consumable for that job (paragraph 43).

Regarding claim 4, Farrell discloses the apparatus of claim 3, wherein for each of the at least one consumable, the controller allocates an estimated amount of that consumable to that job (paragraph 44).

Regarding claim 6, Farrell discloses the apparatus of claim 1, wherein the notification device is at least one of an alert icon, alert message, flashing light or audible noise (paragraph 44).

Regarding claim 7, Farrell discloses the apparatus of claim 1, wherein, for each job for which the controller has generated an alert notification, the controller prevents the printing of that job (paragraph 50).

Regarding claim 8, Farrell discloses the apparatus of claim 7, wherein the notification device indicates at least one of a customer replaceable unit that will need replacing to complete the associated job, that a supply of toner will be inadequate to complete the associated job, and a

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supply of sheets of a recording medium will need replenishing to complete the associated job (paragraph 50, Resources include toner and paper).

Regarding claim 9, Farrell discloses the apparatus of claim 1, wherein the controller allows at least one of a promotion and a demotion of a job in the job queue (paragraph 52).

Regarding claim 10, arguments analogous to those presented for claim 1, are presented.

Regarding claim 11, arguments analogous to those presented for claim 3, are presented.

Regarding claim 12, arguments analogous to those presented for claim 4, are presented.

Regarding claim 14, Wolf discloses the method of claim 11, wherein estimating the amount needed for that job comprises determining an average amount of that consumable used in past image forming operations (column 7, lines 2-55).

Regarding claim 15, Wolf discloses the method of claim 14, wherein determining the average amount of that consumable further comprises:

determining an average amount of that consumable used for a page in past image forming operations (column 7, lines 2-55).

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Regrading claim 16, Wolf discloses the method of claim 15, wherein estimating the amount needed for that job further comprises:

determining an approximate number of pages of that job, and multiplying the average per page amount by the approximate number of pages of that job (column 7, lines 39-55).

Regarding claim 17, Wolf discloses the method of claim 11, wherein estimating the amount needed comprises:

setting a total amount needed of that consumable to zero;

selecting in turn each page of that job;

determining an amount needed of selected consumable for the selected

Page;

adding the determined amount needed to a total amount needed, and

multiplying the total amount needed by a number of copies to obtain the estimated amount needed (column 7, lines 39-55).

Regarding claim 18, Farrell discloses the method of claim 15, wherein estimating the amount needed for that job further comprises:

determining an approximate number of pages of that job, and multiplying the average per page amount by the approximate number of pages of that job.

Regarding claim 19, arguments analogous to those presented for claim 6, are presented.

Regarding claim 20, arguments analogous to those presented for claim 7, are presented.

Regarding claim 21 and 22, arguments analogous to those presented for claim 9, are presented.

Regarding claim 23, Farrell discloses A method for operating an image forming apparatus having a queue of jobs to be performed using the image forming apparatus and at least one of at least one element containing material consumed by the image forming apparatus in performing the jobs within the queue of jobs and at least one element having a useful life consumed by the image forming apparatus in performing the jobs within the queue of jobs, comprising:

- (a) selecting a job from the queue of jobs for promotion as a current job (paragraph 44);
- (b) determining a promotion location of the current job (paragraph 44);
- (c) determining, for at least one element of the image forming apparatus (paragraph 43), a remaining amount of a consumable associated with that element;
- (d) determining, for the selected job and for at least one consumable within the image forming apparatus, if the selected job can be performed based on an unallocated amount of the remaining amount of that consumable (paragraph 43); and
- (e) preventing promotion of the current job if the current job cannot be performed based on the unallocated amount of the remaining amount of that consumable (paragraph 43 and 44).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farrell (US patent application publication US 2003/0067618) in view of Wolf (US patent 6,275,664).

Regarding claim 2, Farrell does not disclose the apparatus of claim 1, further comprising: at least one sensor, the at least one sensor determining, for at least one element of the image forming apparatus, a remaining amount of a consumable associated with that element.

Wolf discloses toner sensor 38 for determining the remainder of toner in column 6, lines 1-3)

Farrell and Wolf are combinable because they are from the same field of endeavor that is image reproduction and consumable monitoring.

At the time of the invention, it would have been obvious to a person ordinary skill in the art to use a sensor to detect the amount of toner left.

The suggestion/motivation for doing so would have been to an alert when the toner is running out.

Therefore, it would have been obvious to combine Farrell and Wolf to obtain the invention as specified in claim 2.

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Regarding claims 5, Wolf discloses the apparatus of claim 3, wherein the controller estimates the amount needed of the consumable for that job on a page by page basis (column 5, lines 64-67 and column 6, lines 1-3; 36-40).

Regarding claim 13, arguments analogous to those presented for claim 5, are presented.

Allowable Subject Matter

5. Claims 24-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Other Prior Art Cited

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Phillips ((US patent 6,366,744) discloses an imaging system that includes consumable monitoring.

Doi (US patent 6,471,314) discloses predicting amount printing agent for a given object.

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Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to (Iraj) Alan Rahimi whose telephone number is 571-272-7411.

The examiner can normally be reached on Mon.-Fri. 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on 571-272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alan Rahimi
September 6, 2005



TWYLER LAMB
PRIMARY EXAMINER